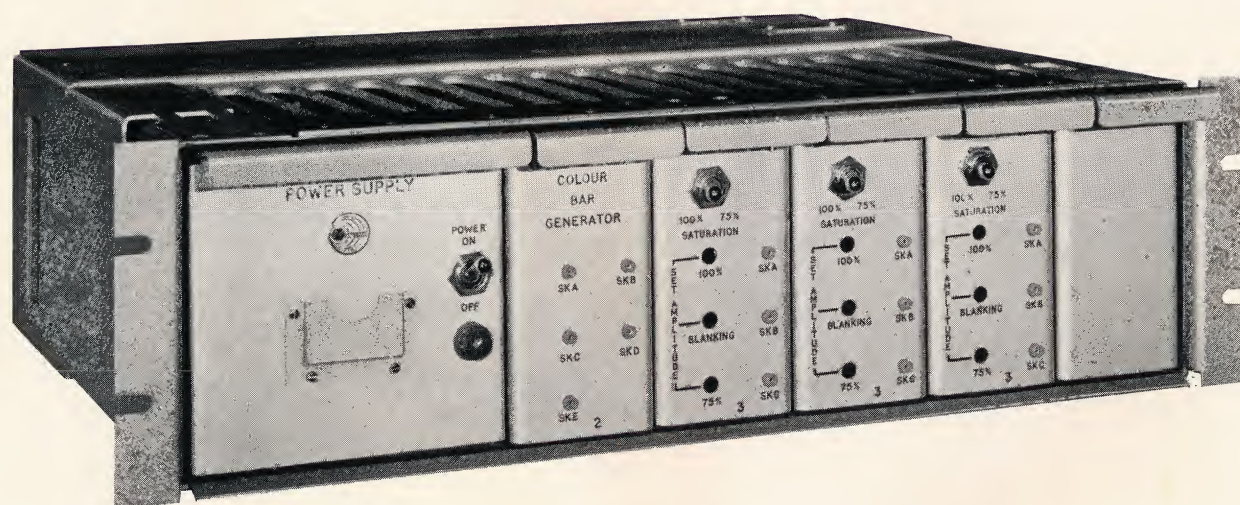


Colour Bar Generator

B 4109

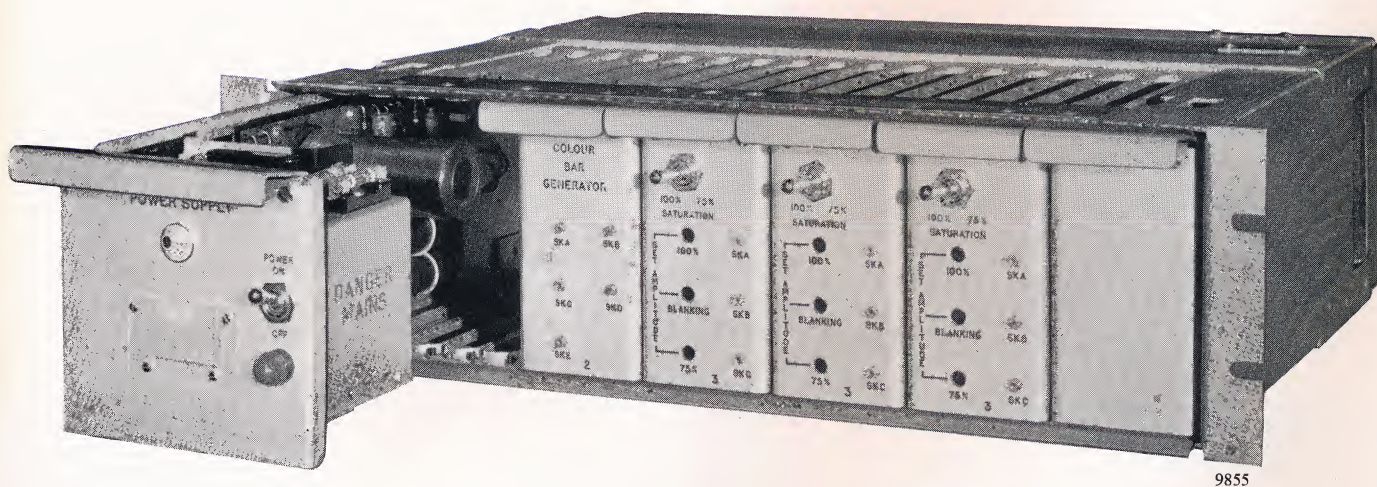


MARCONI

BROADCASTING

FEATURES

- Reference standard stability
- Colour bars switchable between 75 and 100% saturation
- Fully transistorized
- Instant operation on 525 or 625 lines
- Built-in power supply
- Modular construction



9855

This illustrates how the units can be easily withdrawn for servicing

FACILITIES

5 $\frac{1}{4}$ -inch high rack mounting unit provides a set of colour bars consisting of television primaries and complementary colours

Each output module carries a switch enabling 75 or 100 % saturation to be selected for each primary

Each output module has preset gain controls enabling the 75 and 100 % saturation to be adjusted precisely

Each output module also has an adjustable pedestal control

The generator will operate on 525 or 625 line standards according to the frequency of the pulses fed to the blanking input

Bridging pulse inputs are provided

Operational Facilities

THE B4109 Colour Bar Generator provides, in a single compact rack mounting unit, a highly stable source of colour bars. These consist of the primaries, red, green and blue, and their complementary colours arranged in descending order of luminance from left to right when displayed in the following order: White Yellow Cyan Green Magenta Red Blue

The generator is designed to be so stable in operation that it may be used as a standard source of picture and sync., and other items of equipment in a station can be adjusted by using the Colour Bar Generator output as a reference. The colour bars are suitable for adjusting some of the controls of a colour picture monitor, but the main use of the unit is to provide the optimum test signal for setting up the colour coding equipment.

Construction

THE main circuits are carried on modules which plug into a $5\frac{1}{4}$ -inch high, 19-inch rack mounting frame. The printed wiring harness in the frame interconnects the 16-way edge connector sockets for the printed boards and the input and output sockets for the unit. All inputs and outputs are brought out to the rear panel.

The following five modules are used:

- Module 1: Power supply.
- Module 2: Master timing.
- Module 3: Blue bar output.
- Module 4: Red bar output.
- Module 5: Green bar output.

Operational Techniques

THE master timing unit module accepts mixed blanking pulses and processes them to provide trigger and reset pulses for the colour bar output units. Each of the output units provide a set of pulses precisely timed to produce the colour bars described previously. Each output module carries a front panel switch enabling 75 or 100% saturation

to be selected. To de-saturate the colour bars regenerated blanking supplied by the master timing unit is added to the required output. The exact setting of output levels is achieved by preset controls available on the front panels. The three output modules are identical and fully interchangeable.

Ordering Information

TO ensure that you are supplied with equipment exactly to your requirements, please make certain that the ordering information is clear.

The Colour Bar Generator Type B4109 unless otherwise stated on the order, is despatched complete with the following:

- 19-inch rack mounting frame with printed 'mother board' for interconnection.
- All semiconductors.
- Set of mating connectors.
- Technical Handbook.

WHEN ordering please state:

1. Mains voltage employed.
2. If additional Handbooks are required.
3. If spares are required.
4. Type of coaxial cable employed in your installation.

Data Summary

INPUTS:

Mains:

100–125 V in 5 V steps and 200–250 V in 10 V steps, 48–60 c/s. Power consumption 22 VA.

Mixed blanking:

Blanking signals for 525/625 lines negative going at levels from 1.75 to 6 V peak to peak. Bridging inputs are provided. Input impedance 10 k Ω and capacity less than 20 pF.

OUTPUTS:

Colour bars:

One each of red, green and blue adjustable to provide 75 or 100% saturation. Total amplitude 0.7 V.

Amplitude stability:

Over temperature range 0 to 45°C ± 0.1 dB.

Rise times of bar edges:

Better than 0.15 μ s.

Crossover between bars:

Better than 25 ns.

Overshoot:

Less than 3%.

Output impedance:

75 $\Omega \pm 5 \Omega$.

DIMENSIONS:

Height

5 $\frac{1}{4}$ in.
(13.3 cm)

Width

over flanges
19 in.
(48.3 cm)
between fixing
centres
18 $\frac{13}{16}$ in.
(46.4 cm)

Depth

15 $\frac{3}{4}$ in.
(40 cm)

Weight

19 $\frac{1}{2}$ lb
(8.85 kg)

The information given herein is typical of the performance that can be expected in practice but is subject to confirmation at the time of ordering.



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